ANTI DRONE SYSTEM

INTERNATIONAL ARMOUR

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All-in-one Platform HiSee-307
Real-time 24/7 Surveillance & Threat Mitigation

Drone detection interference integration   **HiSee-307**

Long : 37.53414
Lat : 22.087850
Height:105m

Drone Detection
It can detect and identify the brand, model, frequency and other information of invading drones

Target Positioning
Real time positioning both of drone(s) and pilot(s)

Unique Identification Code Recognition
Unique serial number for identifying drones

Black & White List
Can effectively distinguish cooperative and non-cooperative goals

Integrated Detection & Strike
Automatically counter attack the drone after detecting and identifying it.

Movable Work
Ability to continuously detect, locate and counter drones while moving

This drone detection and control integrated equipment is a multi form (fixed and vehicle mounted) drone detection, positioning, and control integrated equipment equipped with a drone comprehensive control system.

This device can monitor the serial number, model, position (longitude, latitude, azimuth), speed, altitude, altitude, takeoff point, return point, trajectory, remote control position (longitude, latitude, azimuth) and other multidimensional information of drones within the monitoring range through deep analysis and data mining of drone signals and Radio jamming and blocking technology can be used to effectively control the black flight UAV, and directional or omnidirectional countermeasures can be selected according to actual needs.

This device is suitable for low altitude security in scenarios such as political core areas, border defense, military restricted areas, military management zones, power and petrochemical parks, and airports. It can work offline on a single machine, be flexibly and quickly deployed, and respond flexibly, meeting the needs of various scenarios.

The product mainly consists of five parts, as shown in the table below:

1 x Vehicle mounted unmanned aerial vehicle detection and control integrated equipment
1 x Power Box
1 x Heavy Load Line
1 x Software

Optional

1 x High performance mobile power supply

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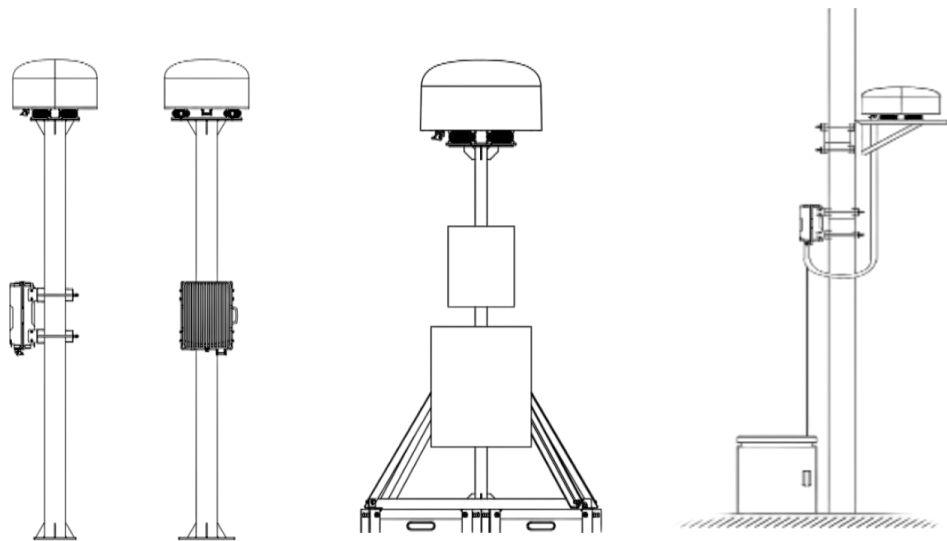
FUNCTIONS

Drone detection: It can detect and identify the brand, model, frequency and other information of intruding drones interest;

Drone positioning[1]: Can locate the position information of DJI series drones, displaying them in real time Human-machine position (latitude and longitude), orientation information, distance information (drone relative to equipment location), speed, altitude, etc.;

Hand positioning [2]: can locate the position information of the DJI UAV, real-time display of the pilot (remote control) position (latitude and longitude), orientation information, distance information (distance of the hand relative to the position of the equipment);

Unique identity code identification [3]: can identify the unique serial number of DJI series UAV and confirm the unique identity information of the UAV;

Inspection and strike integration: the equipment can automatically counter the uav after detecting and identifying the uav;

Multi-target trajectory tracking [4]: It can realize multi-target UAV positioning and tracking, and display multiple flight tracks of UAV at the same time;

Black and white list [5]: can distinguish cooperation from non-cooperative drones, to detect cooperative drones When the equipment does not alarm, and can mark the trust of the cooperative UAV;

Intrusion alarm: when a drone invasion is detected, a sound or audible alarm will be made;

Track playback: support UAV flight track playback, assist security personnel to analyze historical UAV flight data;

Detection record: the detection record list can be reserved for the historical detection record, including multidimensional information such as UAV serial number, model and frequency;

Data visualization analysis: support uav detection and flight data statistical analysis, can be presented by heat map, line map and other visual ways;

Electronic map: Support for electronic map switching, including Autonavi software, Bing and Baidu

FEATURES

Integrated design: all the working modules of the equipment are integrated in a protective cover, protection, cover with low wind resistance shape design, enable the vehicle to maintain stability and safety in high speed motion;

Mobile operation: the equipment has the ability to detect and counter the uav at high-speed movement;

All detection models: the system can identify and detect DJI, Datong, Dahua, Haoxiang and other common brands of drones, as well as homemade crossing machine, WiFi machine and other most models on the market;

Passive detection: the equipment does not emit any electromagnetic signal, no electromagnetic environmental pollution, environmental friendly;

Three full waiting: the equipment works continuously all day (7 * 24h day and night), all-weather (suitable for complex electromagnetic environment and harsh climate environment), all-directional (360° comprehensive detection of UAV invasion) waiting for the safety of the core area.

Multi-unit network: the equipment can be connected to the back-end control platform, and the multiunit network can meet the coverage of large areas.

Performance Index

Performance Indicators - Detection Positioning

No	Index	Parameters
1	Detection and identification of drone types	DJI series drones, FPVs, Xiaomi, Yuneec, Hubsan, Hubson, Powervision, Tello drones etc
2	Localizable drone models	DJI mavic, air, mini, FPV, avata, etc.
3	Detection frequency band	100MHz~6GHz
4	Detection and positioning distance	1~5km (Depending on the environment)
5	Detection height	0m~1000m
6	Number of targets that can be detected simultaneously	≥10 sorties
7	Capable of simultaneously tracking and displaying drone trajectories	≥5 strip
8	Azimuth error	≤1°（RMS）
9	Positioning accuracy	≤10m
10	Detection success rate	≥97%
11	Identify response time	≤3s

Performance Index

Performance Indicators - Reaction

No	Index	Parameters
1	Operation mode	Radio jamming suppression
2	Object of action	UAV image transmission, flight control link, navigation signal
3	Action frequency band	890-940MHz; 1550-1620MHz; 2400-2500MHz; 5125-5350MHz; 5700-5900MHz
4	Transmitting power	Output power of each port (average power) Channel 1 (41±2) dBm Channel 2: (40±2) dBm Channel 3: (41±2) dBm Channel 4: (37±2) dBm
5	Reverse distance	1.5km-2km (there may be some differences depending on the environment and model
6	Counter mode	Directional and Omni directional

Mechanical Parameters

No	Index	Parameters
1	Host Weight	≤30kg
2	Host Size	Φ*H(600mm*420mm)±2mm
3	Power Box Size	L*W*H：483*390*174mm
4	Power Box Weight	22±1kg
5	Other Weight	2.6±0.5kg（Including heavy-duty and power cables）

Electrical Characteristics

No	Index	Parameters
1	Overall Power	Detection only: 55 ± 5WReverse full open: 1500 ± 5W
2	External power supply	100~240V

Environmental Adaptability

No	Index	Parameters
1	Operation temperature	-20~65 Celsius Degrees
2	Protection grade	IP65

Main interface introduction

The main interface of the system contains 7 working areas:

1. Title bar;
2. GIS map area;
3. Detection/positioning list;
4. Counter control;
5. Device information display;
6. System Settings Bar;
7. Map Toolbar
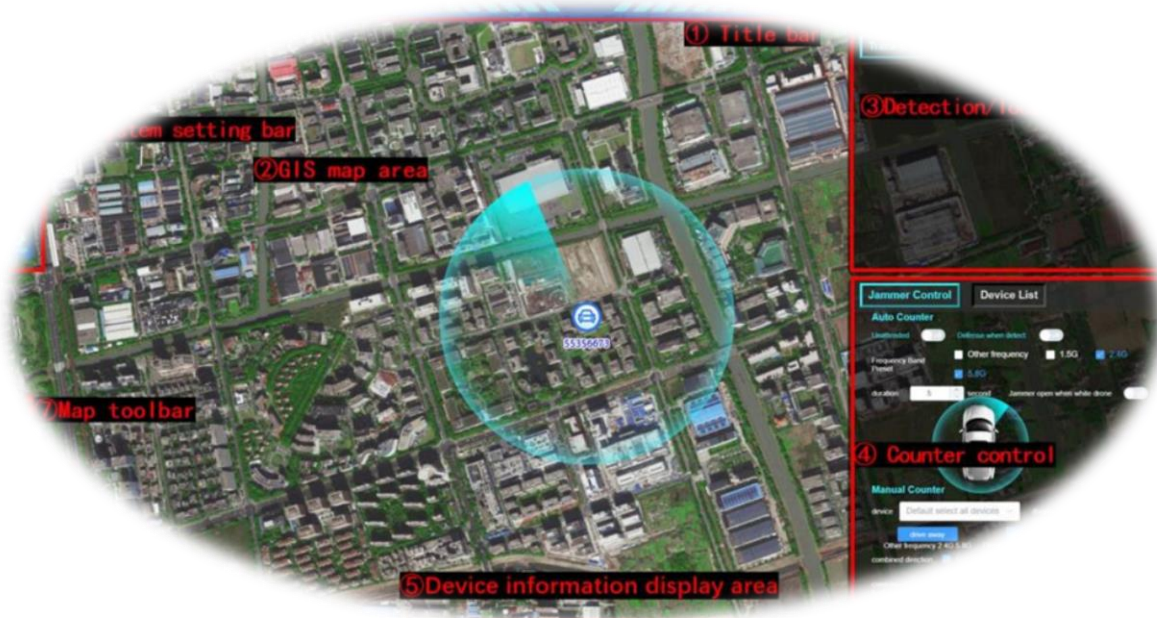
Shortcut Toolbar

The shortcut toolbar includes device lock, distance measurement, map switching, track cleaning, map refresh, map download, and scale.
(For detailed operation, please refer to the instruction of system tools);

Map lock: Click the map lock item, and the interface will be locked to the center of the current device;
Distance measurement: the system can perform distance measurement;
Map switching: the system can switch between Gaode Street, Gaode Satellite Map, Baidu Map, Google Map, and Bing Map, and users can click to switch as needed.
Track cleaning: The system can clear the track displayed on the current map.
Map refresh: click to refresh.
Map download: The system can select a region to download a map, and the downloaded map can be used offline.
Scale: The system can display the current map scale and at the same time Row scaling

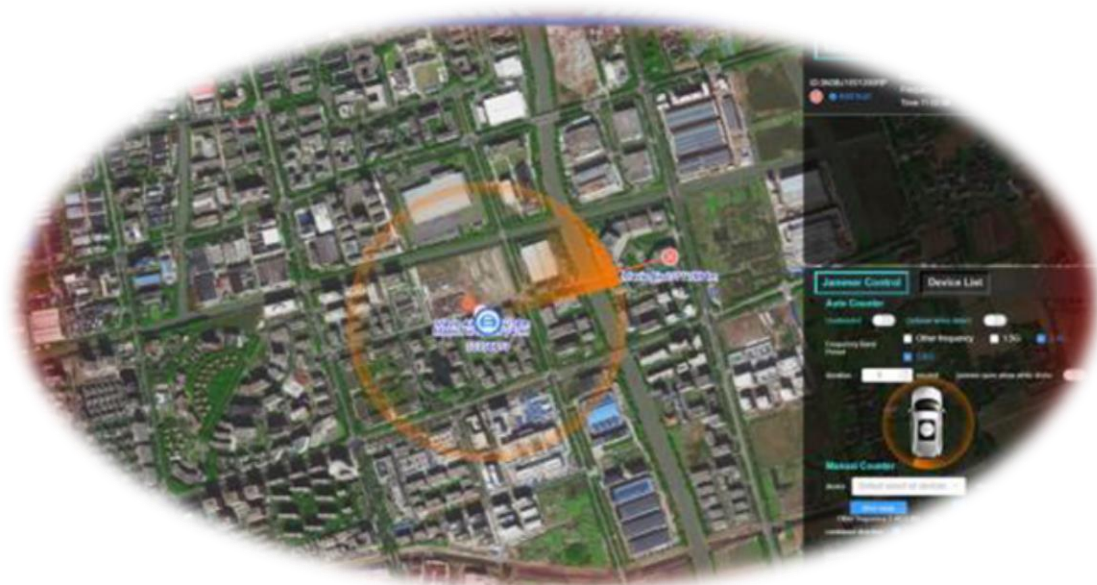## Main interface introduction

UAV detection and positioning

When the device detects a drone, the main interface of the system will display the detection data in real time, and the user can view the location of the drone, the flight track of the drone, and the position of the pilot on the GIS map in real time.

When multiple sorties of drones are detected and located, the trajectory information of the drones will be distinguished and marked with different colors.

UAV positioning/detection list

When the device detects a drone, the drone positioning/detection list icon in the lower right corner of the interface will display yellow; when the device locates a drone, the icon will display red, and the drone positioning/detection list can be expanded by a single device.

Display the detailed information of the detected drones in the form of a list. When you click on the list information of the drone, the system will automatically lock to the drone and display the detailed information of the drone.

Figure GIS map area UAV detection and positioning display legend
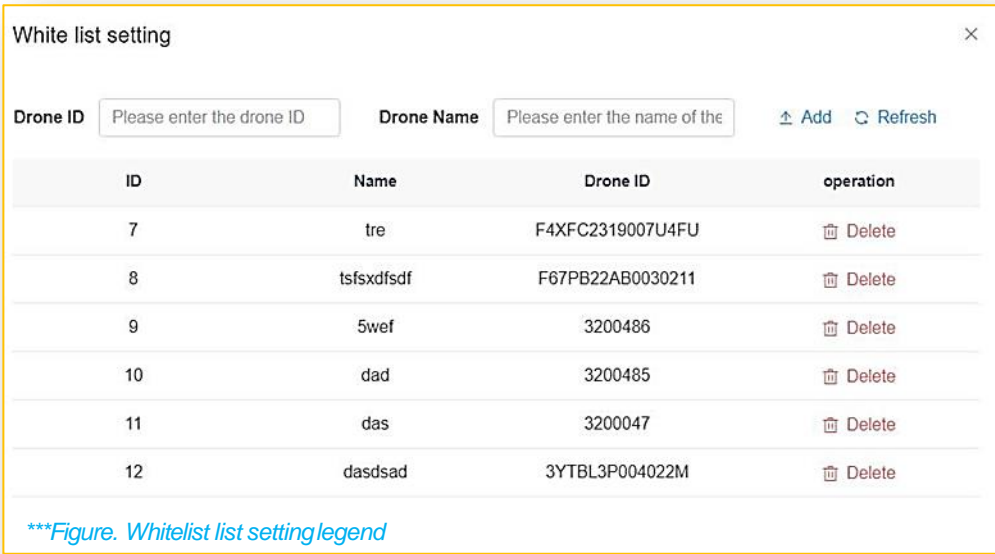*** Figure UAV positioning/detection list display legend*

Main interface introduction

Applicable scene: It can identify the unique serial number of DJI series UAV and confirm the unique identity information of the UAV;

Integrated inspection and strike: The equipment can automatically counter the UAV after detecting and identifying the UAV;

Multi-target trajectory tracking: It can realize multi-target UAV positioning and tracking, and display multiple UAV flight tracks at the same time;

Black and White List: The device has the function of adding a whitelist to the drone added to the whitelist. When the system detects the drone again, it will not alarm and mark the trust.

White list setting				✕
Drone ID Please enter the drone ID		**Drone Name** Please enter the name of the		⬆ Add ↻ Refresh
ID	**Name**	**Drone ID**		**operation**
7	tre	F4XFC2319007U4FU		🗑 Delete
8	tsfsxdfsdf	F67PB22AB0030211		🗑 Delete
9	5wef	3200486		🗑 Delete
10	dad	3200485		🗑 Delete
11	das	3200047		🗑 Delete
12	dasdsad	3YTBL3P004022M		🗑 Delete

***Figure. Whitelist list setting legend

Replaying of Historical Running Data: Support the UAV flight trajectory playback, and assist the security personnel to analyze the historical UAV flight data;

Detection Records: The detection record list can be reserved for historical detection records, including multidimensional information such as serial number, model and frequency of the UAV;

Analysis of The Data Visualization: It supports uav detection and statistical analysis of flight data, and can be presented by heat map, line map and other visual ways;

Electronic Map: Support for electronic map switching, including Autonavi, Bing and Baidu;
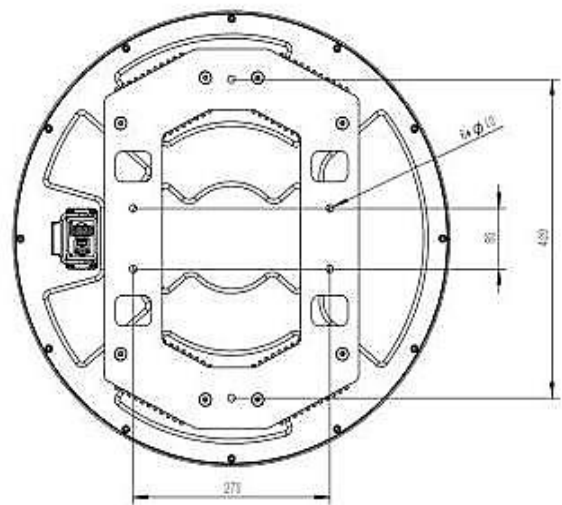
Equipment host

The overall shape of the host is approximately cylindrical, with a diameter of 600mm and a height of 425mm;

The equipment weighs approximately 30kg;

There are six installation hole positions for equipment installation and fixation, with a diameter of 10mm through holes.
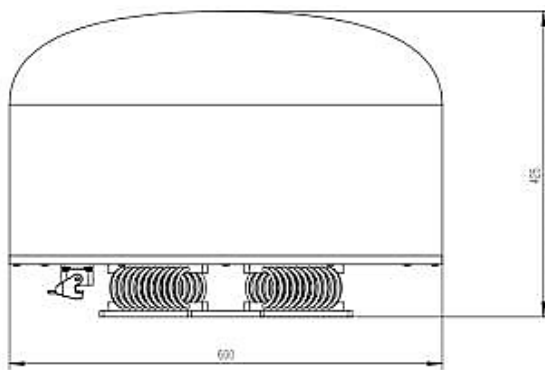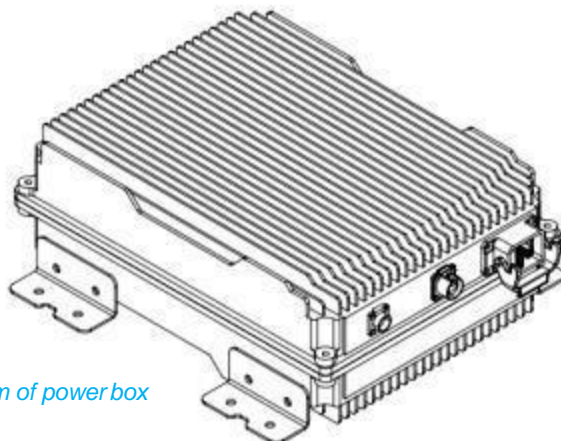

Host Size Diagram

Topological diagram of host installation hole locations

Power Box

The function of the power box is to provide power and network conversion for the device host; Its size is 483 * 390 * 174mm (L * W * H);
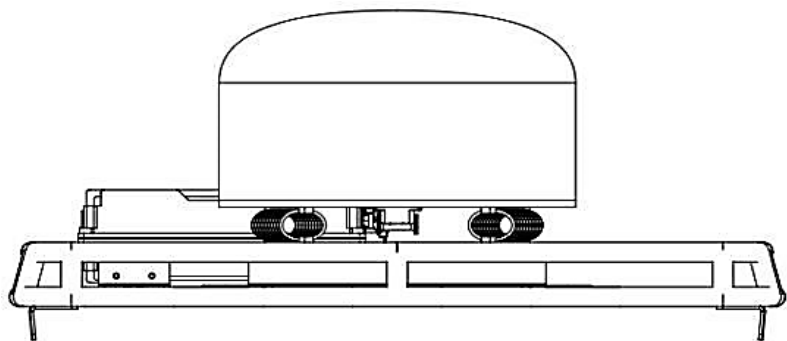
The weight is approximately 22kg.

The appearance diagram and installation hole topology diagram of the power box are as follows:

Appearance diagram of power box

Vehicle mounted installation

Customized luggage rack reference, luggage rack can be customized and modified according to actual installation needs

Schematic diagram of luggage rack with customized hole positions

Note: The host equipment should be raised by 70mm relative to the luggage rack.

The installation diagram is as follows: